On a New Species of the Saturnidae.

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Cricula andrei (Jord.).

The genus *Cricula* consists of three species all confined to the Indomalayan district. The species included under *Cricula* by Sonthonnax in "Etudes de la Lepidopteres producteur de Soie" from Central and South America being now referable to *Copaxa.*

The species are *C. trifenestrata* (Helfer), well known to me only by the plate; *C. drepanoides* (Moore), and the species responsible for this article, *C. andrei* (Jord.). *C. trifenestrata,* which is the best known, is a very common species found in India, Ceylon, Java and as far East as the Philippines. In Assam, according to Mons. A. Wailly, the cocoons are so common and found in such large masses that they rot in the jungles for want of gathering; though this negligence may be explained, I think, more likely by M. Fredrick Moore's note in Trans. Ent. Socy., London, 1862, part 4, page 322, where, speaking of this species, he quotes: "Found in Assam feeding on the soon tree, and in Moulmein upon the cashew-nut tree, *Anacardium orientale* this is the Haumpottonee of the Assamese, noted by M. Hugon as being very common in Assam. He states that the silk can be spun like the Eria,* but the natives do not use it *on account of its silk causing a severe itching when weaving.* In Java the larva feeds on *Protium javanum, Canarium commune* and *Mangifera ingas.*" To which I can add that certainly the larval spines are urticating and they will feed on oak, privet (*Ligustrum oralifolium*), *Rhododendron ponticum.* The cocoons are spun in masses: I have one containing at least 200 cocoons, which was bad in the center, and I fail to see how the moths could eclose from the center of the mass.

In the Entomological News for March, page 101, Dr. Stebbins gives us the life history of this species in a very complete manner and which I can corroborate, and makes in

* *Philosamia ricinii.*

the footnote, on page 103, the statement that Mr. I. English's results were different from his. At the time of writing I have not seen Mr. English's article in Entomologische Zeitschrift, September 25, 1909, Stuttgart, but *under the circumstances* these results were only what was to be expected as the life history there given is, as pointed out by Dr. Jordan, that of this new species, *Cricula andrei* (Jordan), Novitates Zoological, December, 1909: "On the species of *Cricula*, a genus of Saturnidae." In the course of my working out the life histories of Saturnidae, in which, as some of my American friends know, I have been engaged intermittently for some years, I have been fortunate enough to rear this new species, contemporaneously as it appears with Mons. E. André in France, after whom the species was named, and Mr. I. English. I had been receiving cocoons of *C. trifenestrata* from three sources in India, having in all four to five hundred cocoons from North Assam, Bangalore and Calcutta, and could not determine the exact locality, but know it was not Bangalore and feel sure it was North Assam. A few of these cocoons were solitary, of a darker color than the usual golden yellows of *trifenestrata*, and a few commenced to emerge in February, 1909, one female being a lovely cherry red with heliotrope suffusions over the borders of the wings.* It, however, was not until I was definitely able to know that these varieties were emerging from the darker cocoons that I separated them and got two pairings later on in May. Knowing that *trifenestrata* was a very variable insect, I thought it merely a richly colored large variety, and although the larvae were *green* with *black* heads I imagined they would change to black with red bands as they grew up; but as soon as I sent one or two with their parents to Dr. Jordan he pronounced it a new species and named it after Mons. André who had also sent him a fine blown larva a little previously. Dr. Jordan described the life history as far as known and which I am pleased to supplement with the other stages.

* This I now find is the usual color of ♀ Andrei, the ♂ being tawny gold.

C. andrei was first described by Westwood in "Cabinet of Oriental Entomology 1848." Plate XII, Fig. 1 ♂; from a single ♂ specimen under the name of *Saturnia zulcika*, which specific name was already given to *Saturnia* (now *Rinaca*) *zulcika* by Rev. F. W. Hope. Trans. Linn Socy., Lond., Vol. XIX, Pl. XI, page 132; the *figure being by Westwood himself.* The type of *Westwood's zulcika* ♂ and which is now referable to *andrei* ♂, is in the Hope Museum at Oxford and when I last saw it was the second specimen in the row of *C. trifenestrata;* as pointed out by Dr. Jordan the ♀ of *S. zulcika* of Westwood is a male of *trifenestrata.* Westwood evidently led to think that the *trifenestrata* having a less falcate contour than his male *zulcika* (*andrei*) (♂) was the female.

Egg.—Slightly larger if anything than *trifenestrata* laid in even rows where possible or in little masses of 8-15—with a small distinct black micropyle as in *Caligula simla* and *japonica.*

Larva. 1st Stage:—When hatched 3-16 inch long, body pale greenish yellow not changing to blackish brown as in *trifenstrata.* Head shining black with a few fine greenish hairs on skull pointing downwards. They are gregarious when young; 6 rows (2 dorsal) of black spots from the prothoracic carapace, which has 2 lateral ones, to the 11th segment, which is larger. Anal segment and legs brownish red; 2 dorsal and 4 lateral tubercles emitting a small tuft of black spines from the apex. Length on hatching from the egg 3-16 inch long. When ready to moult ¼ inch long.

2nd Stage:—Now a pale straw color with 5 fine black lines on dorsal and sides; head and legs shining black; two black spots on sides of prothoracic carapace, with a black spot on 11th and another on last segment and anal prolegs. The usual Saturninae rows of tubercles; from the apices of which are some coarse spines and fine black hairs ending with wavy white tips. During the second ecdysis the larvae become very transparent. Length ½ inch in length.

3rd Stage:—Colors and markings are the same as the 2nd, except that the lateral black lines are nearly obliterated; the double row of dorsal tubercles previously black, are now of a dull orange with black spines, and are long, black, bristle tipped, 1-3 of its length white. Head and feet shining black also spots on carapace and anal segment. The whole space between the tubercles is *regularly* and *systematically* covered with cream colored shining slightly raised shining tubercles, which now give the larva a very striking appearance in great contradistinction to *trifenestrata* as there the white tubercles are confined

to a band round each segment with a clear interspace between. This is noticeable in the illustration of *trifenestrata* larva plate II. The larvae prefer to feed head downwards. Length 1½ inches.

4th *Stage*:—There is practically no difference in this age except that the spots on tubercles are brighter apricot red and more raised on a slight mound than previously; the head still black is quite pubescent with greyish hairs. Color slightly more greenish and with a pronounced lateral ruga or longitudinal fold of skin along the sides, length 2½ inches and the larva rather slender, the spines on tubercles on thorax quite urticating enough to raise a slight blister.

5*th Stage*:—There is no change of note except that the lateral ruga is more pronounced and the anal tubercle is larger proportionately than before. The larva has a very soft and weak feel, but sticks tenaciously to anything it touches. Length about 3 to 3½ inches long, according to sex apparently. They are now feeding mostly solitary. They were all fed on oak.

They commenced to spin up August and some emerged in September and October. I had some pairings and these eggs commenced to hatch in October; some I sent to the cold store here, temperature 38-40 deg. F. These I have just put in a warm room, but have not hatched March 22nd. As it was a new species I did not wish to lose it and I distributed eggs over the continent within a few days' journey. Some sent to the Zoological Gardens, London, were reared and the 4 cocoons sent me back are darker russet brown than the original ones, while some reared on Privet and Rhododendron are pale greenish yellow. At the time of writing, March 22nd, I have one feeding on Rhododendron. This species will stand cold and frost occasionally.

Pupa closely covered with large punctures which are darker colored and larger and more numerous than *trifenestrata*. Pupal skin is a dull yellow whilst in *trifenestrata*, the color is darker and with finer punctures.

The moths of the third generation (the winter brood) have just commenced to emerge and are of a darker color than the other broods. I have one male of a bright reddish pink with pink costa to forewings.

REFERENCES ARE AS FOLLOWS

Cricula trifenestrata (*Saturnia*). Helfer. Jou: Asiatic Socy. Bengal, VI., Page 45, 1837.

Saturnia zuleika (*Cricula andrei*). Westwood's Cabinet of Oriental Entomology, Pl. 12, Page 25, Fig. I., 1848.

Cricula trifenestrata.—Moore, Trans. Ent. Socy., Lond., 1862, Page 322. Quotes, "Hugon-Sur les Vers à Soie."

Cricula trifenestrata.—Sonthonnax, Essai de classification des Lepidopéres producteurs de Soie, Lyon, 1901-2, Page 11, Plate 13, Fig. 4.

Cricula andrei.—Jordan, Novitates Zoologica, Vol. XVI, Page 300, December, 1909.

Cricula trifenestrata.—Wardle, Wild Silks of India.